Digital Control for Power Converters

The course introduces the fundamentals of digital control of power converters with a practical approach based on microcontrollers. In particular, the course will be based on STMicroelectronics STM32 family of 32-bit ARM Cortex-M core-based microcontrollers and will use the related ecosystem, STM32 IDEs, providing a kick-start to its use in the industrial world.

Outline

1. Digital Control in Power Electronics (2H)
2. Development environment, hardware and software (4H)
3. Applications in Power Converters (4H)
4. Microcontroller hands on (3H)
5. Hardware in the loop (3H)
6. Advanced Digital Control techniques, Model Predictive control and AI applications (2H)

Time schedule (to be defined)

Date	Duration	Time
	2H	15.00 – 17.00
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	2H	15.00 – 17.00
	2H	15.00 – 17.00
	3H	15.00 – 18.00
	3H	15.00 – 18.00
	2H	15.00 – 17.00

The lessons will be held by engineers from STMicroelectronics.